

Policy for Hot Work Performed Outside a Designated Area and/or Temporary Operation

This policy applies both to internal TTUHSC employees as well as any contractor(s) who perform or supervise hot work activities in an existing building, new construction in existing building, or in a building addition. This procedure does not cover such activities as cooking, the use of electric soldering irons, autoclaves, Bunsen burners or other lab equipment. This procedure does not apply to unoccupied buildings under construction.

A. Hot Work Management Process

This policy recognizes two types of work processes and the difference in fire hazard potential between the two. These processes are:

- **Hot Work Performed by Contractors** – This includes all construction and demolition activities including all project related work performed by an outside Contractor. The Contractor must properly control Hot Work operations and ensure that all Hot Work is performed in compliance with FM Global Hot Work Management or an equivalent Contractor Hot Work program. The Contractor Hot Work program must address and meet all required Fire Hazard Controls outlined in section C of this Attachment (TTUHSC OP75.16 Attachment E). The Contractor Supervisor / Superintendant is responsible for properly scheduling and securing a **Contractor Access and Hot Work Notification Form (Attachment F)** prior to any Hot Work. For work requiring plant outages other than silencing of the bells, this request should be made 7 days in advance. All other notifications should be made two working days in advance. The Contractor Supervisor / Superintendant is responsible for consulting with PM and/or TTUHSC Fire Marshal for any Contractor Hot Work that cannot be modified to eliminate all potential sources of ignition. By authorizing hot work on TTUHSC property, the contractor assumes total responsibility for properly controlling Hot Work operations. On site hot work should not be performed if the work can be avoided or performed in a safer location.
- **Permit Required Hot Work Performed by TTUHSC Employees** – This includes daily maintenance and construction activities (example: soldering copper pipe). In most cases, TTUHSC employee activities do not present the level of hazard of contractor's activities and are usually performed by TTUHSC personnel very familiar with their work environment, the hazards of the work, emergency procedures, and appropriate safety controls.

A Hot Work Permit must be issued for any temporary operation performed by a TTUHSC employee that might produce high heat, sparks, and/or open flames. The operations include but are not limited to the use of open flames, compressed gas, or supplied fuel burning, brazing, cutting, grinding, soldering, thawing pipe, torch applied roofing, and welding. On site hot work should not be performed if the work can be avoided or performed in a safer location.

The Permit Authorizing Individuals (PAI) for this type of work must be trained in FM Global Hot Work Management and the use of fire extinguishers and must comply with the FM Global Hot Work Permit System for all hot work.

B. Hot Work Roles & Responsibilities (Work Performed by TTUHSC employees)

TTUHSC Permit Authorizing Individuals (PAI)	The PAI's primary responsibility is to inspect Hot Work sites prior to the start of Hot Work operations using the checklist found on the permit form and to ensure that all applicable precautions on the FM Global Hot Work Permit have been taken prior to allowing the start of any hot work. • The PAI will obtain a Hot Work Permit from TTUHSC Safety Services or Operations and Maintenance designee. • The PAI will designate an employee to serve as fire watch. • The PAI will verify that an extinguisher is available in the immediate area where hot work is being performed. • The PAI will ensure that a Fire Watch is scheduled and maintained for at least 60 minutes following work. • After completing the work, the 60 minute fire watch, and the 3 hour monitoring period, the PAI will sign the completed permit and return a copy to TTUHSC Safety Services or Operations and Maintenance designee. • By signing and accepting the permit, the employee agrees to abide by all the terms and conditions in this procedure as stipulated on the permit. TTUHSC Safety Services and Fire Marshal will perform periodic audits of the worksite and reserve the right to stop work activities as unsafe conditions warrant. • The PAI must be trained in FM Global Hot Work Management and the use of fire extinguishers and must comply with the FM Global Hot Work Permit System for all Hot Work.
TTUHSC Hot Work Operator (HWO)	The HWO(s) are the individual(s) performing Hot Work operations. The HWO's primary responsibility is to safely perform Hot Work. • The HWO must always obtain a Hot Work Permit before beginning Hot Work. • The HWO must ensure that combustible materials are not in the vicinity of work. • The HWO must safely handle hot work equipment to prevent the endangerment of life and property. • The HWO must be trained in FM Global Hot Work Management and must comply with the FM Global Hot Work Permit System for all Hot Work.
TTUHSC Fire Watch	The Fire Watch is posted to monitor the safety of Hot Work operations and watch for fires (even during breaks and meal times). The Fire Watch's principal responsibility is to maintain the Hot Work area in a fire-safe condition. • The Fire Watch must be aware of the inherent hazards of the work site and of Hot Work. • The Fire Watch must have an extinguisher ready and must be familiar with the facility, procedures for sounding an alarm in the event of a fire and turning in such an alarm immediately when necessary. • The Fire Watch remains in the Hot Work area for at least 60 minutes following Hot Work completion and carefully inspects work and adjacent areas for smoldering fires. The inspection extends to floors above and below the work and adjacent rooms.

TTUHSC Fire Watch cont.	• After the 60 minute watch, the Fire Watch signs the permit and informs the PAI. • The Fire Watch must be trained in FM Global Hot Work Management and the use of fire extinguishers and must comply with the FM Global Hot Work Permit System for all Hot Work.
TTUHSC Facilities Operations & Management (FO&M)	The TTUHSC FO&M's principal responsibility is to properly control Hot Work operations and to ensure that all Hot Work is performed in compliance with TTUHSC OP75.16 and the FM Global Hot Work Management program. Facilities & Operations Management is responsible for: • Insuring that the Hot Work Policy outlined in OP75.16 is adapted and enforced. • Consulting with Safety Services as questions arise.
TTUHSC Project Manager (PM)	The TTUHSC PM's principal responsibility is to schedule contractor performed Hot Work and notify appropriate campus personnel of Hot Work being performed on TTUHSC premises. The PM is responsible for: • Ensuring distribution of Contractor Access and Hot Work Notification Form (Attachment F) prior to commencement of contractor performed Hot Work. Distribution list to include Texas Tech Police, Building Operations and Maintenance, and TTUHSC Fire Marshal. • Ensuring Outage Request Form (Attachment G) has been provided to Plant Operations if job will require a system outage including silencing of the bells. • Consulting with TTUHSC Fire Marshal for any contractor Hot Work that cannot be modified to eliminate all potential sources of ignition.
Safety Services in Conjunction with TTUHSC Fire Marshal and Risk Management	The principal responsibility of Safety Services (in conjunction with the TTUHSC Fire Marshal) is to ensure that all hot work documentation, processes, and training programs meet the intent of the FM Global Hot Work Management program and are developed in accordance with NFPA standards. Safety Services is responsible for: • Periodically auditing hot work processes. • Supporting FM Global Hot Work Management training program. • Supporting fire extinguisher training program. • Providing clarification and direction on NFPA standards and FM Global Hot Work Management questions as they arise.

C. Hazard Controls for Performing Hot Work on TTUHSC Premises:

Fire Watch	• A fire watch is required for all Hot Work activities covered by this policy. The Fire Watch must have an operable extinguisher ready and must be familiar with the facility, procedures for sounding an alarm in the event of a fire and turning in such an alarm immediately when necessary. The Fire Watch remains in the Hot Work area for at least 60 minutes following Hot Work completion and carefully inspects work and adjacent areas for smoldering fires.
Fire Hazard Controls	In addition to general good housekeeping practices (rapid removal of construction debris at least daily) the following controls must be utilized when performing Hot Work activities: • Hot Work shall only be performed in properly permitted areas • Hot Work shall not be attempted in areas not permitted, in the presence of flammable materials (e.g. gasoline, thinner, etc.), or in the presence of explosives or explosive atmospheres. • Hot Work shall not be attempted in sprinklered buildings where such protection has been disabled without approval from TTUHSC Fire Marshal or owner designated representative. • Hot Work equipment (torches, saws, etc.) shall be in good repair. All torches utilizing regulators and hoses must have flashback arrestors at the regulators. All welding leads must have no bare conductors. • The floor area where the Hot Work is to be performed shall be cleared of combustible debris to a distance of 35' beyond the area of Hot Work. If the Hot Work area will be wide, as in the case of demolition activities, then the entire area must be free of combustibles to the extent feasible and acceptable to the PAI or contractor supervisor/superintendent. • Where Hot Work must be performed in the presence (within 35') of combustible materials, the combustible material shall be shielded from ignition by FM approved welding pads, blankets, or curtains. Edges of covers meeting the floor and overlaps of covers shall be tight to prevent sparks from going under the cover. • Within 35', openings or adjacent areas (e.g. cracks in the walls, floor or ducts) shall be covered to prevent sparks from entering adjacent areas. • If Hot Work is performed on walls, ceilings or floors, precautions shall be taken to prevent materials on the other side from igniting. • Hot Work shall not be attempted on partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction. • Hot Work that is performed on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs or other combustibles shall not be undertaken if the work is close enough to cause ignition by conduction. Other controls may be employed such as products designed to dissipate the heat transferred. • If Hot Work is to be performed on enclosed equipment, the equipment must be cleaned of all combustibles and purged of flammable liquids/vapors. Pressurized vessels, piping and equipment should be removed from service, isolated, and vented.

Procedure for Hot Work Performed by TTUHSC Employees	
1	Any TTUHSC employee serving as a PAI , HWO , or Fire Watch must be trained in FM Global Hot Work and the use of fire extinguishers and must comply with the FM Global Hot Work Permit System for all hot work. Permits are good for one day only, and are limited to one job site. In order to ensure that fire safe conditions are maintained on TTUHSC premises, jobs requiring hot work over several days must have a separate permit issued for each day.
2	Prior to beginning any hot work, a Hot Work Permit must be completed. Depending on campus location, permits may either be located in Safety Services or FO&M.
3	The PAI must follow the FM Global Hot Work Permit instructions and meet the required precautions checklist for all jobs requiring hot work. If all required precautions on the permit checklist cannot be completed, the PAI must not proceed with the work. Any exception must be approved by the TTUHSC Fire Marshall or owner designated representative prior to beginning Hot Work.
4	After ensuring compliance with all required precautions, the PAI will complete Part 1 of the Hot Work Permit. By signing the permit, the PAI is verifying that the location has been examined, that all precautions checked on the Required Precautions Checklist have been taken to prevent fire, and that the HWO indicated in the "Name of Person Doing Hot Work" field is trained in FM Global Hot Work and the use of fire extinguishers and will comply with the FM Global Hot Work Permit System for this job.
5	After completing the Hot Work Permit, the PAI will provide Part 2 (the back copy) to the HWO performing the job. The Hot Work Permit must be posted in a visible place within the work area.
6	The PAI must ensure that the Fire Watch is equipped with a suitable extinguisher, that the Fire Watch is trained in the use of this equipment, and that the Fire Watch is trained in sounding an alarm in the event of a fire or turning in an alarm immediately when necessary. The PAI must ensure that a Fire Watch is posted in adjoining areas, above and below as necessary. The PAI must ensure that a Fire Watch is maintained for 60 minutes following hot work (including breaks and lunches) and that the area is monitored for 3 hours after the job is completed.
7	After the work has been completed, the 60 minute fire watch has been completed, and the work area and all adjacent areas to which sparks and heat might have spread were inspected and found fire safe, the Fire Watch will sign the Hot Work Permit and leave it posted in a visible place within the work area.
8	After the work area has been monitored for 3 hours following hot work and found fire safe, the PAI will complete a final checkup. After verifying that the location is fire safe, the PAI will sign the Final Checkup field on the Hot Work Permit and return the completed Hot Work Permit to the permit log attendant (either in Safety Services or FO&M). All Hot Work Permits must be correctly completed and returned to TTUHSC permit log attendant for record retention.